



SUBSTITUTE SPECIFICATION [REPLACEMENT VERSION]

## PERMANENT MAGNET MOTOR

### BACKGROUND OF THE INVENTION

#### 5 Field of the Invention

The present invention relates to a permanent magnet motor equipped with a rotor consisting of a plurality of permanent magnets buried in a rotor core.

#### 10 Related Art

There is disclosed a permanent magnet motor whose demagnetization resistance and efficiency has been improved by burying permanent magnets in a rotor core (see, for example, Japanese Patent Laid-Open No. 11-187597). Figure 11 is a side view showing an end of  
15 a rotor of the permanent magnet motor as viewed along the insertion direction of a rotating shaft of the rotor before the rotating shaft is inserted. In Figure 11, a rotor 2 consists of a rotor core 2a and rotating shaft (not shown), where the rotor core 2a is a generally pillar-shaped stack of steel plates cylindrical in outline. Near its outer circumference,  
20 the rotor core 2a has permanent-magnet-holding slots 5 corresponding to sides of an approximately regular octagon and each of the permanent-magnet-holding slots 5 contains a permanent magnet 4. The permanent magnets 4 are arranged in such a way that the S pole and N pole alternate with each other. A plurality of radially elongated slits 6  
25 are arranged apart from each other along each of the permanent-magnet-holding slots 5 on an outer core 3 outside the permanent-magnet-holding slots 5. A rotating-shaft hole 8 is provided in the center of the rotor core 2a to accept the rotating shaft.

With the conventional permanent magnet motor described above,  
30 the slits 6 in the rotor core 2a are spaced at equal intervals to lead in and out magnetic flux of the permanent magnets 4 radially as well as to prevent magnetic flux (hereinafter referred to as armature reaction flux)